HERITAGE IMPACT ASSESSMENT

Metadata Field	Application Details
Application Reference	P/2026/0575
Proposal	Listed Building Consent for installation of Air Source Heat Pump (ASHP) cascade system and associated internal/external connection works
Location	Fron Uchaf Farm, Fron Isaf, Chirk, Wrexham, LL14 5AL
Applicant	Evan Wallace
Date	October 2026

1. Executive Summary & Objective

This Heritage Impact Assessment (HIA) has been prepared to satisfy the validation requirements for application P/2026/0575 in accordance with Cadw guidance (Heritage Impact Assessment in Wales) and Technical Advice Note 24: The Historic Environment.

The application proposes the installation of a ground-mounted cascade system comprising two (2x) Stiebel Eltron HPA-O 10.2 Trend outdoor air source heat pump units (total output 18.98 kW / 0.019 MW) to replace an existing double-bunded domestic oil storage tank. The units will sit side-by-side on an enlarged 2.6m x 0.8m concrete base pad in the established secondary utility yard.

Crucially, all external-to-internal flow and return pipework runs (including two 22mm loops to the cylinder) will pass directly through the existing oil boiler flue aperture, requiring zero new core penetrations into historic stone masonry. The primary objective is to decarbonize the property's heating system while ensuring the historic fabric, architectural integrity, and immediate setting of the listed building are completely preserved.

2. Defining the Significance of the Listed Building

A. Architectural & Evidential Significance

Fron Uchaf is a traditional Georgian stone farmhouse reflecting rural vernacular building methods of the late 18th/early 19th century. Its physical significance resides in:

- Structural Fabric: Traditional local stone/rubble masonry with breathable lime mortars.
- Form & Fenestration: Symmetrical Georgian principal elevation, traditional roof proportions, and original stone detailing.
- Interior Plan: Traditional floor plan retaining thick stone internal load-bearing walls.

B. Setting & Contextual Significance

The setting of Fron Uchaf contributes significantly to its historical character:

- **Immediate Curtilage:** Comprises an established rural homestead setting with defined functional utility zones.
- **Utility Evolution:** The side/rear domestic yard zone has historically served as the operational service area for domestic infrastructure, currently accommodating modern services including a double-bunded oil tank on a concrete pad.
- **Key Views:** Principal historic views are oriented towards the front and key countryside approaches. The proposed work location sits out of primary sightlines in a secondary service area.

3. Assessment of Impact on Significance & Setting

In accordance with Cadw criteria, the impacts of the proposed development have been objectively evaluated across physical fabric, setting, and historic character:

- **Physical Wall Fabric (Utilization of Existing Flue Aperture):** Beneficial / Neutral impact. Flow and return pipework utilizes the existing oil boiler flue penetration, requiring zero new core drilling into historic masonry. The redundant flue void will be sleeved, insulated, and neatly sealed with breathable traditional lime mortar matching the surrounding stonework in composition and colour. Fully reversible.
- **Visual Setting (Removal of Oil Tank & Installation of Heat Pump Cascade):** Beneficial impact. Removes a prominent industrial fossil fuel tank and replaces

it with lower -profile, neutral dark grey units (1170mm W x 727mm D x 960mm H each) on a 2.6m x 0.8m pad within an existing utility footprint.

- **Historic Environment (Transition to Zero -Emission Heating):** Beneficial impact. Secures sustainable long -term occupation and active preservation of the building fabric by updating heating infrastructure safely.

4. Clear Justification & Public Benefits

Cadw guidance and TAN 24 require proposals affecting listed buildings to demonstrate clear justification and public benefit where minor interventions occur:

1. **Decarbonization & Climate Resilience:** Transitioning from oil heating to a high -efficiency renewable heat pump aligns directly with Welsh Government climate targets (*Net Zero Wales*).
2. **Elimination of Environmental Hazards:** Removing bulk oil storage eliminates the risk of ground contamination or hydrocarbon spills in the domestic curtilage.
3. **Protection of Building Fabric:** Reusing the existing oil boiler flue hole avoids any core drilling or physical degradation of the historic stone masonry.
4. **Long -Term Viability of Listed Asset:** Modernizing heating infrastructure to efficient low -carbon delivery ensures the building remains viable, warm, and well -maintained for future generations without degrading its historic structure.
5. **Reversibility:** The entire installation is non -structural and fully reversible. Should technology change, removing the units and making good the single existing wall aperture with stone and lime mortar leaves zero permanent impact on the heritage asset.

5. Statement of Compliance

The proposal represents a proportionate, sympathetic, and neutral -to-beneficial intervention that protects the character, significance, and setting of Fron Uchaf. It fully satisfies the requirements of TAN 24, Cadw HIA guidance, and Section 16 of the Planning (Listed Buildings and Conservation Areas) Act 1990.